

(57) Abstract: Wireless audio signal transmission method for audio signals between a transmitting device (S40) and a spatially adjacent receiving device (E50) which is associated with an audio signal reproduction device (LB) included in a three-dimensional sound system. Before transmission, the audio signals are digitized in the transmitting device (S40), compressed, and transmitted by a digital high-frequency transmission method as data packets (FD), wherein symbols (A, B, C, D) are assigned to the individual data in a quadrature signal plane. A transmitter diversity operation takes place between the transmitting device (S40) and the receiving device (E50), wherein the transmitting device (S40) has two high-frequency transmitters (S4, S5) with quadrature conversion which are each connected to an associated transmission antenna (AS1, AS2). On the receiver side, each audio signal reproduction device has, however, only a single receiving device (E50) with one receiving antenna (EA) and one high-frequency receiver (E5). Differentiation of the two received high-frequency data streams (D₁, D₂) containing the individual symbols in coded form is implemented in a decoding device (CE).